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14 April 1999

Ms. Ana Veloz-Townsend
Site Cleanup Unit
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Work Plan for Clarifier Removal and Soil Remediation by Soil Vapor Extraction at the Jervis B. Webb Company Property Located at 5030 Firestone Boulevard, South Gate, California
(RWQCB SLIC File No. 744; EKI 961025.03)

Dear Ms. Veloz-Townsend:

Erler & Kalinowski, Inc. ("EKI") is pleased to submit this *Work Plan for Clarifier Removal and Soil Remediation by Soil Vapor Extraction* for the Jervis B. Webb Company of California ("Webb") property located at 5030 Firestone Boulevard, South Gate, California ("Subject Property", see Figure 1). Plans for clarifier removal and the basis and conceptual design for a soil vapor extraction ("SVE") system to remove volatile organic compounds ("VOCs") from soil at the Subject Property are described herein.

BACKGROUND

Halogenated VOCs have been detected in soil, soil gas, and groundwater at the Subject Property. Results from sampling and analyses are reported in:

- *Phase II Soil Investigation Report, Jervis B. Webb Company Property, 5030 Firestone Boulevard, South Gate, California*, Erler & Kalinowski, Inc., 18 February 1998 ("Phase II Soil Report"); and,

- *Phase II Groundwater Investigation Report, Jervis B. Webb Company Property, 5030 Firestone Boulevard, South Gate, California*, Erler & Kalinowski, Inc., 30 June 1998 ("Phase II Groundwater Report").

- *Additional Groundwater Investigation and Quarterly Monitoring Report for October to December 1998 Related to the Jervis B. Webb Company Property at 5030 Firestone Boulevard, South Gate, California*, Erler & Kalinowski, Inc., 13 January 1999 ("Additional Groundwater Investigation and Quarterly Monitoring Report")

The VOCs that have been detected the most frequently and at the highest concentrations in soil, soil gas, and groundwater samples collected at the Subject Property are trichloroethene ("TCE") and tetrachloroethene ("PCE"). Other VOCs that have been detected in soil, soil gas, or groundwater at the Subject Property include acetone, benzene, chloroform, 1,1-dichloroethane ("1,1-DCA"), 1,2-dichloroethane ("1,2-DCA"), 1,1-dichloroethene ("1,1-DCE"), cis-1,2-dichloroethene ("cis-1,2-DCE"), trans-1,2-dichloroethene ("trans-1,2-DCE"), 1,1-dichloroethene ("1,1-DCE"), 1,1-dichloroethane ("1,1-DCA"), methyl ethyl ketone ("MEK"), 1,1,1-trichloroethane ("1,1,1-TCA"), dichlorodifluoromethane ("CFC-12"), toluene, trichlorofluoromethane ("CFC-11"), and xylenes. As discussed in the reports listed above, TCE and PCE are considered to be the primary chemicals of concern in soil at the Subject Property.

Vadose Zone Setting

Locations of soil borings at the Subject Property and a geologic cross section are shown on Figures 2 and 3, respectively. Groundwater beneath the Subject Property is first encountered at approximately 45 feet below ground surface ("ft bgs"). A clay layer about 1 to 5 feet thick is located approximately 25 ft bgs, and may act as a barrier to vertical vapor migration between the unsaturated soil above and below the clay layer. The unsaturated soil above the clay layer is referred to herein as the "shallow vadose zone", and the unsaturated soil beneath the clay layer is referred to herein as the "deep vadose zone."

The shallow vadose zone has two distinct units, including a silty-sand zone extending from near ground surface to approximately 10 ft bgs, and a sandy-silt/clayey-silt zone extending from approximately 10 to 25 ft bgs. The highest VOC concentrations reported in soil at the Site have been in soil samples collected from the sandy-silt/clayey-silt zone, i.e., at 20 ft bgs in soil boring B4. Because the sandy-silt/clayey-silt zone will likely have somewhat lower permeability than the overlying silty-sand zone, SVE wells will be screened only in the lower permeability sandy-silt/clayey-silt zone to force airflow through the soil where the highest VOC concentrations in soil have been detected. Based on soil air permeability data obtained during soil investigations (see the Phase II Soil Report), there is some uncertainty about whether adequate air flow can be achieved for operation of a SVE system in the shallow vadose zone. However, based on experience at other sites, EKI believes that it is likely that adequate airflow can be achieved. Webb may initially install and test one SVE well, and if adequate air flow is demonstrated, then the remaining wells will be installed.

The deep vadose zone includes unsaturated soil beneath the clay layer found at approximately 25 ft bgs, and extends vertically from approximately 25 ft bgs to the groundwater table at approximately 45 ft bgs. In the middle of this zone is a 1 to 5 foot thick sand zone, overlain and underlain by lower permeability silty-sand and sandy-silt zones (see Figure 3).

Soil Data

Concentrations of TCE and PCE detected in soil samples collected at the Subject Property are listed in Table 1. Concentrations of PCE or TCE have been detected at concentrations above

10 milligrams per kilogram ("mg/kg") in only two soil samples collected at the Subject Property. TCE was detected at 270 mg/kg and PCE was detected at 140 mg/kg in a soil sample collected at 20.5 ft bgs in soil boring B4. TCE was also detected at 16 mg/kg in a soil sample collected at 21 ft bgs in soil boring B18. These sampling locations are beneath the clarifier at the Subject Property, a suspected historical release point for VOCs.

In the shallow vadose zone (i.e., above 25 ft bgs), TCE and PCE have been detected above 1 mg/kg only in soil samples collected from borings B4, B18, and B19. These soil borings are located within a few feet of each other and the clarifier (see Figure 2). These data suggest a limited lateral extent of elevated VOC concentrations in shallow soil at the Site.

In the deep vadose zone (i.e., below 25 ft bgs) TCE appears to be more broadly distributed in soil, but at concentrations substantially lower than the highest concentration detected in soil samples from the shallow vadose zone (see above). The highest TCE concentration detected in soil samples collected from the deep vadose zone is 8.7 mg/kg detected in a soil sample collected from 45 ft bgs in soil boring B18 (i.e., beneath the clarifier). TCE has been detected above 1 mg/kg in soil samples from below 25 ft bgs in each of the five soil borings that have been advanced into the deep vadose zone (i.e., borings B15, B16, B17, B18, and B19). The broader distribution of TCE in the deep vadose zone at concentrations near 1 mg/kg suggests that TCE may have migrated through groundwater and/or through the vapor phase to soil that was not directly impacted by a surface release of TCE.

Soil Gas Data

Soil gas samples were collected from approximately 5 ft bgs at several locations on the Subject Property and analyzed for VOCs. Results of the soil gas survey are summarized on Figures 4 and 5 for TCE and PCE, respectively (see the Phase II Soil Report for more details). The estimated area where TCE was present in soil gas above 10 micrograms per liter ("ug/l") extends from beneath the building to the eastern property line and is centered near the clarifier. The area where PCE was present in soil gas above 10 ug/l appears to be more limited, is located primarily beneath the building, and also encompasses the clarifier location.

Soil samples collected from the upper 11 feet of soil beneath the building and within the areas where TCE and PCE were detected in soil gas above 10 ug/l did not contain TCE or PCE above 1 mg/kg. Therefore, the TCE and PCE detected in soil gas beneath the building may be the result of lateral migration of vapor from the suspected release area near the clarifier adjacent to the building. This vapor migration would be most likely to occur in the relatively permeable silty-sand zone underlying the building from approximately 0 to 10 ft bgs. Alternatively, the TCE and PCE detected in soil gas may be the result of vertical migration of vapor from underlying soil that contains elevated concentrations of TCE and PCE.

SCOPE OF PROPOSED CLARIFIER REMOVAL

Webb proposes to engage Cornerstone Environmental Contractors, Inc. ("CEC") to remove the clarifier at the Subject Property. Clarifier removal is planned before installation of the SVE system. Prior to field work, CEC will obtain necessary permits, notify Dig Alert (at least 48 hours before start of the project), and survey the clarifier area for below ground and above ground utilities.

Currently, the clarifier is full of a sandy fill material. If practical, CEC will remove the fill sand from inside the clarifier before removal of the clarifier. The clarifier, fill sand, and any remaining contents will be excavated, removed and placed in appropriate containers for disposal off-site. EKI will observe and document the work and collect soil samples for chemical analyses, if needed.

Because SVE is planned for remediation of soil in this location, excavation of soil underlying the clarifier will not be performed unless obvious visual indications of contamination are observed. EKI anticipates that the final depth of the excavated area will be approximately 10 ft bgs. The clarifier is located adjacent to the Webb building, therefore, soil excavation, if any, will be very limited in extent to minimize the potential for adverse structural impact to the building. The excavation will be backfilled and compacted with imported fill material. We anticipate using a fill material less than 3" in diameter, with approximately 30-70% passing through a ¾"-sieve and 10-30% fines.

Sampling and chemical analysis of the contents of the clarifier and/or excavated soil will be performed as necessary to profile these waste materials for disposal at an off-site facility. Because sampling and chemical analyses of soil have already been performed in the clarifier area, no sampling of soil from under the clarifier after it is removed, or from the base of the excavation, is proposed.

SCOPE OF PROPOSED SVE SYSTEM

Conceptual Scope of Proposed SVE System

Based on the available data, the SVE system will be designed to remove TCE and PCE from two targeted treatment areas at the Subject Property, as follows.

1. The "Shallow Treatment Zone" will be the sandy-silt/clayey-silt zone from approximately 10 to 25 ft bgs, centered near the location where TCE was detected in soil at a concentration of 270 mg/kg (see Figure 6); and,

2. The "Deep Vadose Treatment Zone" will be from approximately 25 to 45 ft bgs, i.e., below the clay layer at approximately 25 ft bgs and centered near the location where TCE was detected in soil at concentrations up to 8.7 mg/kg.

The basis and conceptual scope of SVE treatment in each zone are described below.

Shallow Treatment Zone

The Shallow Treatment Zone will extend from approximately 10 ft bgs to the top of the clay layer that is found at approximately 25 ft bgs, and is centered around the clarifier that is a suspected VOC release point. Extraction well SVE-1 will be installed at the clarifier location (after the clarifier is removed) and screened from approximately 17 to 25 ft bgs. This well will specifically target the soil beneath the clarifier and in the vicinity of borings B4 and B19 where elevated TCE and PCE concentrations were detected in soil samples collected from the shallow vadose zone.

The screened interval for well SVE-1 will begin at 17 ft bgs to avoid the sand layer located at approximately 12 to 14 ft bgs (see Figure 3). By avoiding the sand layer, more airflow should be forced through the lower permeability sandy-silt/silty-clay zone where elevated concentrations of VOCs have been detected.

Although the Shallow Treatment Zone is targeting soil from 10 to 25 ft bgs, the overlying soils from 0 to 10 ft bgs are also expected to be treated as air flows through the overlying soil into the targeted zone.

Two potential SVE wells (SVE-2 and SVE-3) will also be installed in the Shallow Treatment Zone, as shown on Figure 6. These wells will be located outside the area where elevated VOC concentrations have been detected in soil, but will be within the areas where TCE or PCE have been detected at above 10 ug/l in soil gas samples. Wells SVE-2 and SVE-3 will serve as vacuum monitoring wells during initial startup and testing, i.e., to monitor the vacuum profile created by extraction from well SVE-1 alone. Data from initial SVE operations will be used to evaluate whether vapor extraction from these wells will result in significant VOC removal. Vapor will be extracted from these wells if they contribute significantly to VOC removal rates during SVE treatment. All SVE wells and vacuum monitoring points in the Shallow Treatment Zone will be constructed with nominal 2-inch diameter polyvinyl chloride ("PVC") well casings and screens.

A radius of influence of 20 feet or more is expected for each SVE well in the Shallow Treatment Zone, as illustrated for reference on Figure 6. The location for well SVE-2 is proposed 35 feet east of SVE-1, and the location for SVE-3 is proposed 30 feet northwest of SVE-1. Therefore, if SVE-2 and SVE-3 are used for vapor extraction, it is expected that the radius of influence for each well will overlap with the adjacent well(s). Further, it is expected that the combined lateral influence of the SVE wells will extend beyond the locations where TCE and PCE were detected above 1 mg/kg in soil samples and encompass most of the area where TCE and/or PCE was detected above 10 ug/l in soil gas samples. The actual radius of influence for well SVE-1 will be estimated after startup, as described below.

Two vacuum monitoring points will also be installed in the Shallow Treatment Zone. Vacuum monitoring points VMP-1 and VMP-2 will be installed 10 and 20 feet, respectively, east of well SVE-1. The monitoring points will be used to monitor the vacuum induced by extraction from well SVE-1, thereby providing an indication of the radial influence of SVE-1. Wells SVE-2 and SVE-3 will also be used for vacuum monitoring during startup and testing, as indicated above.

Deep Vadose Treatment Zone

The Deep Vadose Treatment Zone includes unsaturated soil beneath the clay layer found at approximately 25 ft bgs, and extends vertically from approximately 25 ft bgs to the groundwater table at approximately 45 ft bgs. At approximately in the middle of this zone is a 1 to 5 foot thick sand zone, overlain and underlain by lower permeability silty-sand and sandy-silt zones (see Figure 3).

Extraction well SVE-D1 will be installed near well SVE-1 in the location of the clarifier (after the clarifier is removed), and will be screened from approximately 30 to 40 ft bgs. It is expected that by extracting soil gas from a sandy soil with an overlying clay layer at 25 ft bgs, the radius of influence for this well may be 100 feet or more, depending on the applied vacuum and extraction rate.

Well SVE-D1 will be used for two purposes: (1) to remove VOCs from soil in the vicinity of borings B18 and B19 (i.e., where the highest TCE concentrations have been detected in this depth range), and (2) to remove VOC vapors that migrate from the underlying groundwater in the area, reducing the potential for further vapor migration. The capillary fringe may limit SVE airflow and effectiveness in soil near the groundwater table.

Vacuum monitoring points for the Deep Vadose Treatment Zone will be designated VMP-D1 and VMP-D2 and will be installed in the same boreholes as SVE-2 and SVE-3 (see above) using nested-well construction. Each vacuum monitoring point will be located approximately 35 feet from well SVE-D1. The vacuum monitoring points will be used to monitor the vacuum induced by extraction from well SVE-D1, thereby providing confirmation of the radial influence of SVE-D1 at the monitoring locations. Soil gas samples will be also be collected from VMP-D1 an VMP-D2 to observe the impact of SVE operations on VOC soil gas concentrations in the Deep Vadose Treatment Zone. The vacuum monitoring points will be constructed so as to allow for conversion to SVE wells if future data suggest the conversion would significantly benefit the soil remediation.

Extraction well SVE-D1 will be constructed with nominal 4-inch diameter PVC well casing and screen. The vacuum monitoring points in the Deep Vadose Treatment Zone will be constructed with nominal 2-inch diameter PVC well casings and screens.

SVE System Capacity

An SVE system with an extraction capacity of approximately 200 standard cubic feet per minute ("scfm") at a maximum operating vacuum of 15 inches of mercury ("in-Hg") will be installed. This capacity will allow for a target extraction rate of 10 to 50 scfm from each of the shallow extraction wells SVE-1, SVE-2, and SVE-3. The remaining blower capacity, expected to be in the range of 50 to 150 scfm, will be applied to the deep extraction well SVE-D1.

SVE Operating Strategy

The SVE system will be operated with priority given to removing VOCs from the Shallow Treatment Zone. Therefore, extraction capacity will be focussed on well SVE-1, and potentially wells SVE-2 and SVE-3, if initial operating data indicates that extraction from these wells will result in significant VOC removal. Extraction rates will be adjusted to extract relatively more air from wells where relatively higher VOC concentrations are detected. As discussed above, wells SVE-2 and SVE-3 may be closed if the VOC removal rate from those wells is not significant.

The blower capacity that is available after attempting to achieve the target extraction rates in the shallow wells will be applied to the deep well SVE-D1. Therefore, it is expected that well SVE-D1 will be operated at an extraction rate of 50 to 150 scfm.

Depending on the operational data, the blower capacity may be re-distributed on a weekly basis to alternate extraction capacity between the shallow and deep wells, thereby maximizing the overall VOC removal rates and optimizing off-gas treatment efficiency.

Off-Gas Treatment and Permitting

Extracted vapors are expected to contain TCE, PCE, and to a lesser extent some of the other VOCs previously detected in soil and soil gas at the Subject Property. TCE and PCE in the vapor phase are readily adsorbed by granular activated carbon ("GAC"). Therefore, GAC will be used for off-gas treatment at the Site.

Webb intends to have the SVE system provided by a contractor with an existing and applicable air permit from the South Coast Air Quality Management District ("SCAQMD"). The "various locations permit" is limited to a 200 scfm capacity SVE system, requires off-gas treatment by GAC, and requires GAC replacement when the outlet total VOC concentration exceeds 50 parts per million by volume ("ppmv").

Monitoring

During startup, the radius of influence for well SVE-1 will be tested by monitoring the vacuum response in wells SVE-2 and SVE-3 and in monitoring points VMP-1 and VMP-2. Similarly, the induced vacuum will be monitored at vacuum monitoring points VMP-D1 and VMP-D2 to observe the influence of extraction well SVE-D1, although it is expected that the radius of influence for well SVE-D1 may extend substantially beyond the vacuum monitoring points.

Immediately after system startup and during the first month of system operation, soil gas samples from each vapor well, vapor probe, and the system influent will be collected and analyzed for total VOCs using an organic vapor meter ("OVM") in the field. The OVM will utilize a photoionization detector ("PID"). Additional OVM samples will be collected on a monthly basis during the course of system operation. These data will be used to track trends in total VOC concentrations being extracted during SVE operation. The operating vacuum and flow rate at each operating SVE well will also be recorded on a weekly basis.

Soil gas samples will be collected from the two vapor extraction wells (SVE-1 and SVE-D1) and the combined influent to the SVE blower immediately after startup of the SVE system and on a monthly basis, thereafter. These samples will be analyzed at a laboratory for halogenated VOCs, using an analytical method similar to and incorporating the target VOCs in EPA Method 8010. These data will be used to track trends in VOC concentrations over time and to quantify VOC removal rates.

EKI plans to collect soil gas samples from vapor monitoring wells SVE-2 and SVE-3 immediately after system startup and following the second, fourth, fifth, and sixth months of operation. However, soil gas samples will not be collected from wells SVE-2 and SVE-3 after the fourth and fifth months of operation if the analytical results from the previous rounds of sampling indicate that TCE and PCE concentrations are less than 10 ug/l. Soil gas samples will also be collected from vapor monitoring probes VMP-1, VMP-2, VMP-D1, and VMP-D2 immediately after the startup of the SVE system and following the third and sixth months of system operation. The soil gas samples will be analyzed at a laboratory for halogenated VOCs, using an analytical method similar to and incorporating the target VOCs in EPA Method 8010. These data will be used to track trends in soil gas VOC concentrations over time and to assist in quantifying the effectiveness of the SVE system.

As VOC vapor concentrations reach low levels, Webb may temporarily shut down the SVE system for approximately one week prior to a scheduled sampling event. Vapor samples would be collected immediately upon startup in order to monitor the "rebound" in VOC concentrations following the shutdown. EKI plans to perform rebound testing prior to the final sampling event following the scheduled six months of operation; however, additional rebound testing may be performed during the course of system operation.

SVE System Shutdown

The SVE system will be operated until the VOC removal rate decreases to the point where it is determined that additional SVE treatment is no longer warranted. EKI will use data collected throughout the course of operation, along with information obtained from rebound testing, to make this determination. Webb will seek RWQCB concurrence when it is determined that SVE operations should be discontinued. At this time, Webb is expecting to operate the SVE system for approximately 6 months.

REPORTING

EKI proposes to prepare quarterly progress reports to present the results of investigation and remediation activities at the Subject Property. The reports will be prepared for each calendar quarter and will include (1) a description of work completed during the quarter, (2) the results of quarterly groundwater monitoring, and (3) the results of SVE system monitoring. These reports will be submitted to the Regional Water Quality Control Board ("RWQCB") approximately one month after the end of each calendar quarter.

SCHEDULE

EKI plans to proceed with clarifier removal concurrent with RWQCB review of this work plan and anticipates completion of this effort in approximately one month. SVE system installation and startup are estimated to be completed within approximately three to four weeks following approval of this workplan. The next quarterly progress report will be submitted by the end of April 1999 for the quarter from January to March 1999.

Please contact us with any comments or questions.

Very truly yours,

ERLER & KALINOWSKI, INC.

Steven G. Miller, P.E. 43419
Project Manager

Attachments

Tables
1. Soil Analytical Results for PCE and TCE

Figures
1. Site Location Map
2. Plan Map Showing Deep Soil Cross Section Through Clarifier
3. Cross-Section A-A' Showing Concentration of TCE in Vadose Zone Soil
4. Concentrations of TCE Detected in Shallow Soil Gas
5. Concentrations of PCE Detected in Shallow Soil Gas
6. Proposed SVE Well Locations

cc: Eli Stanesa, Jervis B. Webb Company

TABLE 1

Soil Analytical Results for PCE and TCE

Jervis B. Webb Company, 5030 Firestone Boulevard, South Gate, California

Boring Number	Date	Sample Number	Depth (ft. bgs)	Concentration PCE (mg/kg)	Concentration TCE (mg/kg)
B-1	10/28/97	B1-5.5	5.5	0.074	0.024
		B1-11	11	0.130	0.037
		B1-20	20	0.035	0.040
B-2	10/28/97	B2-5.5	5.5	0.018	0.007
		B2-10.5	10.5	0.045	-
B-3	10/28/97	B3-6	6	0.042	0.010
		B3-11	11	0.120	0.034
B-4	10/28/97	B4-6	6	0.076	0.021
		B4-10.5	10.5	n/a	n/a
		B4-16	16	**2.2**	0.092
		B4-20.5	20.5	**140**	**270**
B-5	10/28/97	B5-1	1	n/a	n/a
		B5-6	6	0.025	0.005
		B5-10.5	10.5	0.065	0.190
B-6	10/28/97	B6-6	6	0.130	0.031
		B6-10.5	10.5	0.019	0.025
B-7	10/28/97	B7-2	2	n/a	n/a
		B7-6	6	0.055	0.019
		B7-11	11	-	-
B-8	10/28/97	B8-2	2	n/a	n/a
		B8-6	6	0.003	-
		B8-11	11	0.041	0.050
B-9	10/28/97	B9-5.5	5.5	0.004	-
		B9-10.5	10.5	0.022	0.041
B-10	10/28/97	B10-6	6	0.027	0.006
		B10-11	11	-	0.036
B-11	10/28/97	B11-6	6	0.061	0.016
		B11-11	11	-	0.035
B-12	10/28/97	B12-6	6	-	-
B-13	10/28/97	B13-6	6	-	-
B-15	12/2/97	B15-10	10	-	-
		B15-16	16	-	-
		B15-20.5	20.5	-	-
		B15-26.5	26.5	0.054	0.038
		B15-31	31	0.041	0.520
		B15-35.5	35.5	0.026	0.140
		B15-40	40	-	**1.2**
		B15-44.5	44.5	-	**1.3**

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Jervis B. Webb Company, 5030 Firestone Boulevard, South Gate, California

Boring Number	Date	Sample Number	Depth (ft. bgs)	Concentration PCE (mg/kg)	Concentration TCE (mg/kg)
B-16	12/2/97	B16-6	6	-	-
		B16-11	11	-	-
		B16-16	16	0.027	-
		B16-21	21	0.041	-
		B16-26	26	0.047	-
		B16-31	31	0.027	-
		B16-35.5	35.5	-	-
		B16-41	41	-	0.410
		B16-46	46	-	0.390
		B16-51	51	-	**1.3**
B-17	12/2/97	B17-6	6	-	-
		B17-11	11	-	-
		B17-16	16	-	-
		B17-21	21	-	-
		B17-26	26	-	0.048
		B17-31.5	31.5	-	0.056
		B17-36	36	-	**1.4**
		B17-41	41	-	**1.2**
		B17-46	46	-	**1.6**
		B17-53.5	53.5	-	**1.4**
B-18	12/2/97	B18-11	11	0.400	0.110
		B18-16	16	0.370	0.610
		B18-21	21	0.660	**16**
		B18-27	27	0.093	0.750
		B18-31	31	0.140	**2**
		B18-36	36	-	0.056
		B18-41	41	0.091	**2.3**
		B18-46	46	0.180	**8.7**
B-19	12/2/97	B19-16	16	0.420	0.200
		B19-21	21	0.280	**1.8**
		B19-26	26	0.280	**1.5**
		B19-31	31	0.250	**1.2**
		B19-36.5	36.5	-	0.110
		B19-41	41	0.160	**4**
		B19-46	46	0.180	**4.3**
MW-1	2/25/98	MW1-10.5	10.5	0.021	0.018
		MW1-20.5	20.5	0.023	0.062
		MW1-30.5	30.5	0.011	0.060
MW-2	2/25/98	MW2-10.5	10.5	-	-
		MW2-20.5	20.5	-	-
		MW2-30.5	30.5	-	-

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		B5-6	6	0.025	0.005
		B5-10.5	10.5	0.065	0.190
B-6	10/28/97	B6-6	6	0.130	0.031
		B6-10.5	10.5	0.019	0.025
B-7	10/28/97	B7-2	2	n/a	n/a
		B7-6	6	0.055	0.019
		B7-11	11	-	-
B-8	10/28/97	B8-2	2	n/a	n/a
		B8-6	6	0.003	-
		B8-11	11	0.041	0.050
B-9	10/28/97	B9-5.5	5.5	0.004	-
		B9-10.5	10.5	0.022	0.041
B-10	10/28/97	B10-6	6	0.027	0.006
		B10-11	11	-	0.036
B-11	10/28/97	B11-6	6	0.061	0.016
		B11-11	11	-	0.035
B-12	10/28/97	B12-6	6	-	-
B-13	10/28/97	B13-6	6	-	-
B-15	12/2/97	B15-10	10	-	-
		B15-16	16	-	-
		B15-20.5	20.5	-	-
		B15-26.5	26.5	0.054	0.038
		B15-31	31	0.041	0.520
		B15-35.5	35.5	0.026	0.140
		B15-40	40	-	**1.2**
		B15-44.5	44.5	-	**1.3**

TABLE 1

Soil Analytical Results for PCE and TCE

Jervis B. Webb Company, 5030 Firestone Boulevard, South Gate, California

Boring Number	Date	Sample Number	Depth (ft bgs)	Concentration PCE (mg/kg)	Concentration TCE (mg/kg)
B-16	12/2/97	B16-6	6	-	-
		B16-11	11	-	-
		B16-16	16	0.027	-
		B16-21	21	0.041	-
		B16-26	26	0.047	-
		B16-31	31	0.027	-
		B16-35.5	35.5	-	-
		B16-41	41	-	0.410
		B16-46	46	-	0.390
		B16-51	51	-	**1.3**
B-17	12/2/97	B17-6	6	-	-
		B17-11	11	-	-
		B17-16	16	-	-
		B17-21	21	-	-
		B17-26	26	-	0.048
		B17-31.5	31.5	-	0.056
		B17-36	36	-	**1.4**
		B17-41	41	-	**1.2**
		B17-46	46	-	**1.6**
		B17-53.5	53.5	-	**1.4**
B-18	12/2/97	B18-11	11	0.400	0.110
		B18-16	16	0.370	0.610
		B18-21	21	0.660	**16**
		B18-27	27	0.093	0.750
		B18-31	31	0.140	**2**
		B18-36	36	-	0.056
		B18-41	41	0.091	**2.3**
		B18-46	46	0.180	**8.7**
B-19	12/2/97	B19-16	16	0.420	0.200
		B19-21	21	0.280	**1.8**
		B19-26	26	0.280	**1.5**
		B19-31	31	0.250	**1.2**
		B19-36.5	36.5	-	0.110
		B19-41	41	0.160	**4**
		B19-46	46	0.180	**4.3**
MW-1	2/25/98	MW1-10.5	10.5	0.021	0.018
		MW1-20.5	20.5	0.023	0.062
		MW1-30.5	30.5	0.011	0.060
MW-2	2/25/98	MW2-10.5	10.5	-	-
		MW2-20.5	20.5	-	-
		MW2-30.5	30.5	-	-

TABLE 1

Soil Analytical Results for PCE and TCE

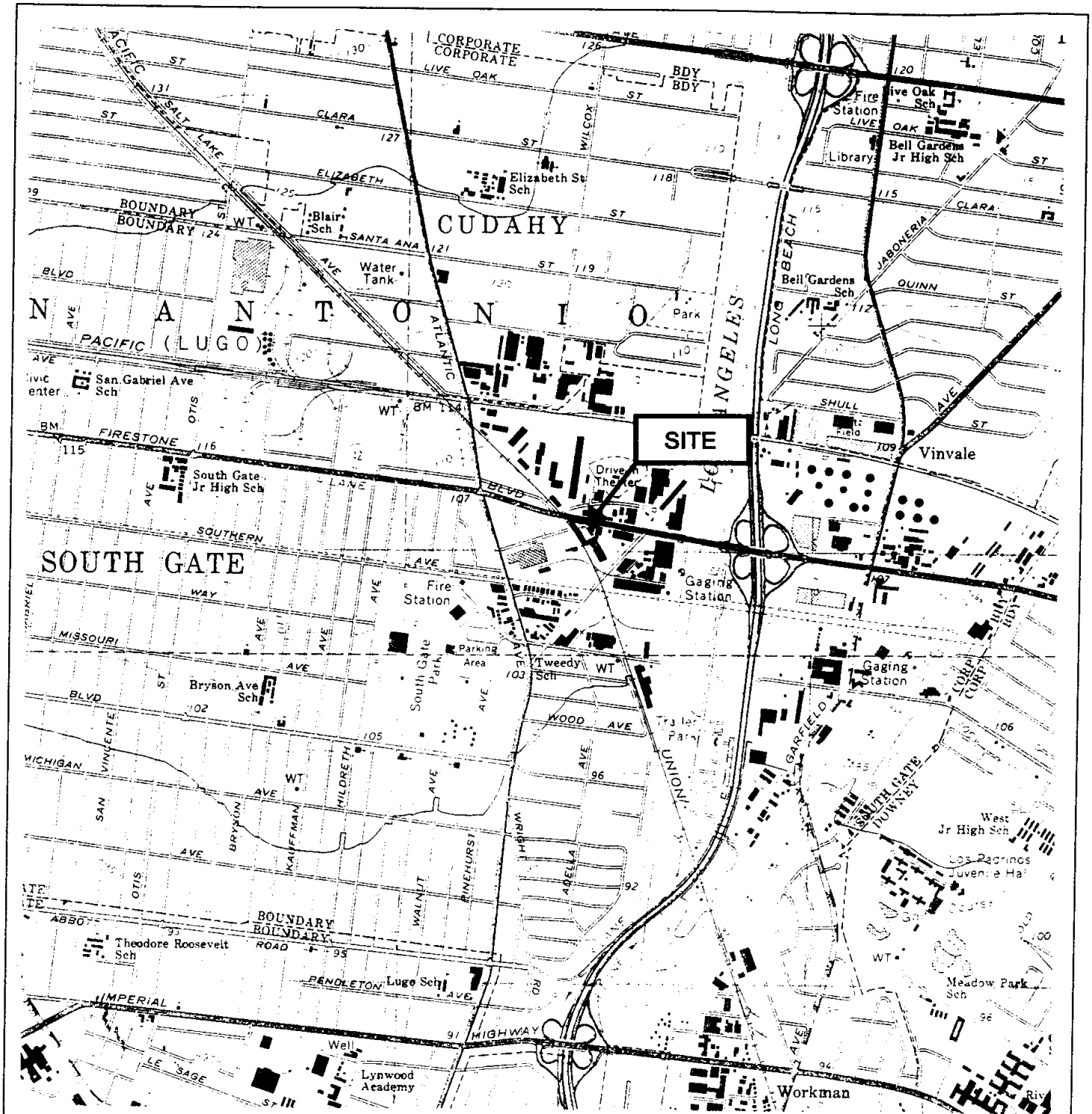
Jervis B. Webb Company, 5030 Firestone Boulevard, South Gate, California

Boring Number	Date	Sample Number	Depth (ft bgs)	Concentration PCE (mg/kg)	Concentration TCE (mg/kg)
MW-3	2/25/98	MW3-11	11	-	-
		MW3-20.5	20.5	-	-
		MW3-30.5	30.5	-	-
MW-5	10/28/98	MW-5-21	21	-	0.022
		MW-5-31	31	-	0.011
		MW-5-41	41	-	0.550

Notes:

1. Abbreviations:

PCE = tetrachloroethene
TCE = trichloroethene
ft bgs = feet beneath ground surface
mg/kg = micrograms per kilogram
- = not detected
n/a = not analyzed
BOLD = analyte present above 1 mg/kg.



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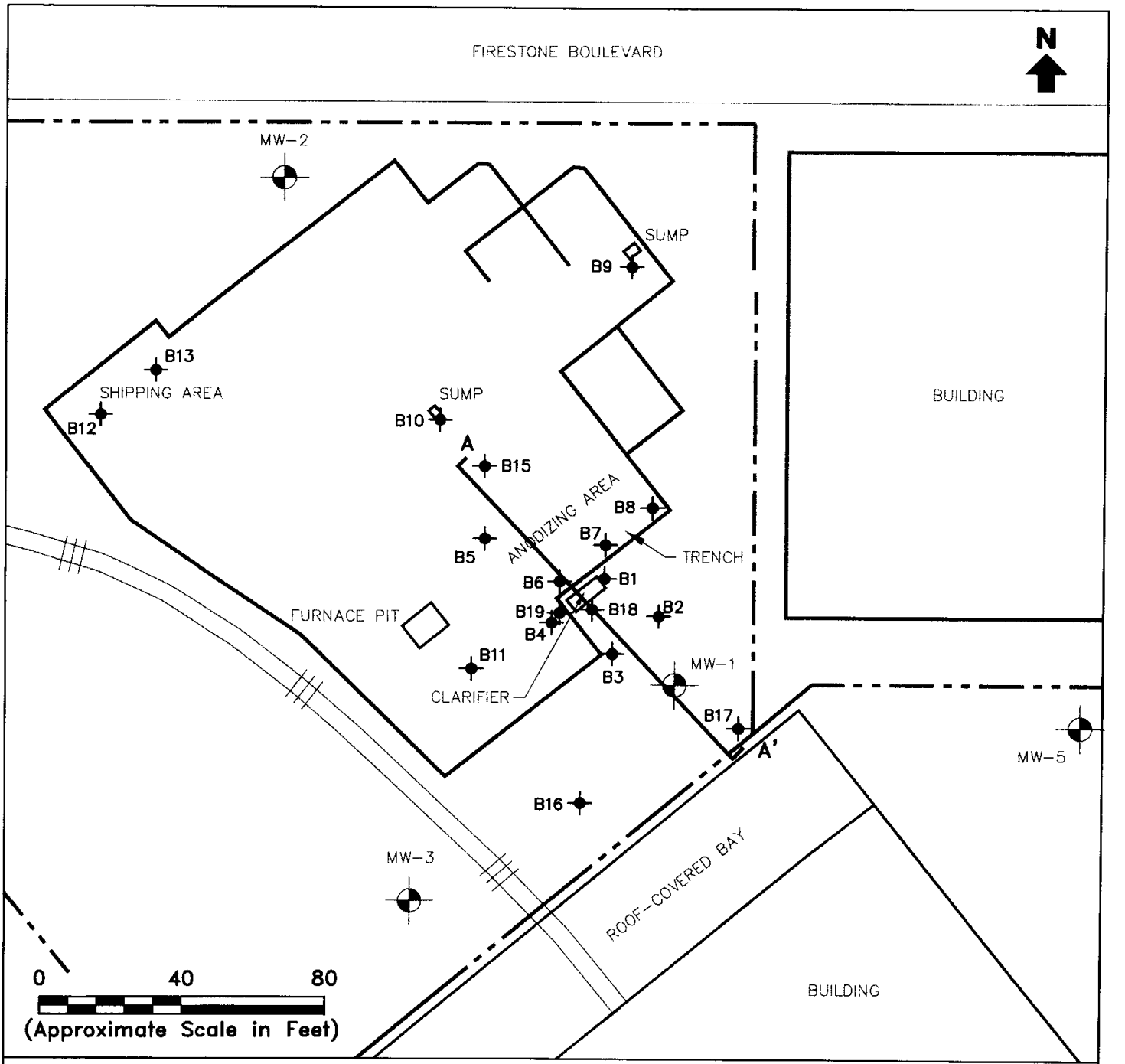
Site Location Map

Jervis B. Webb Company
South Gate, California
April 1999
EKI 961025.03
Figure 1

Source: U.S.G.S 7.5 Minute Series "South Gate" Quadrangle, 1964, photorevised 1981.



LEGEND

- LOCATION OF SOIL BORING
- GROUNDWATER MONITORING WELL
- PROPERTY LINE/BOUNDARY
- BUILDING
- RAILROAD SPUR

Notes:

1. All locations are approximate.

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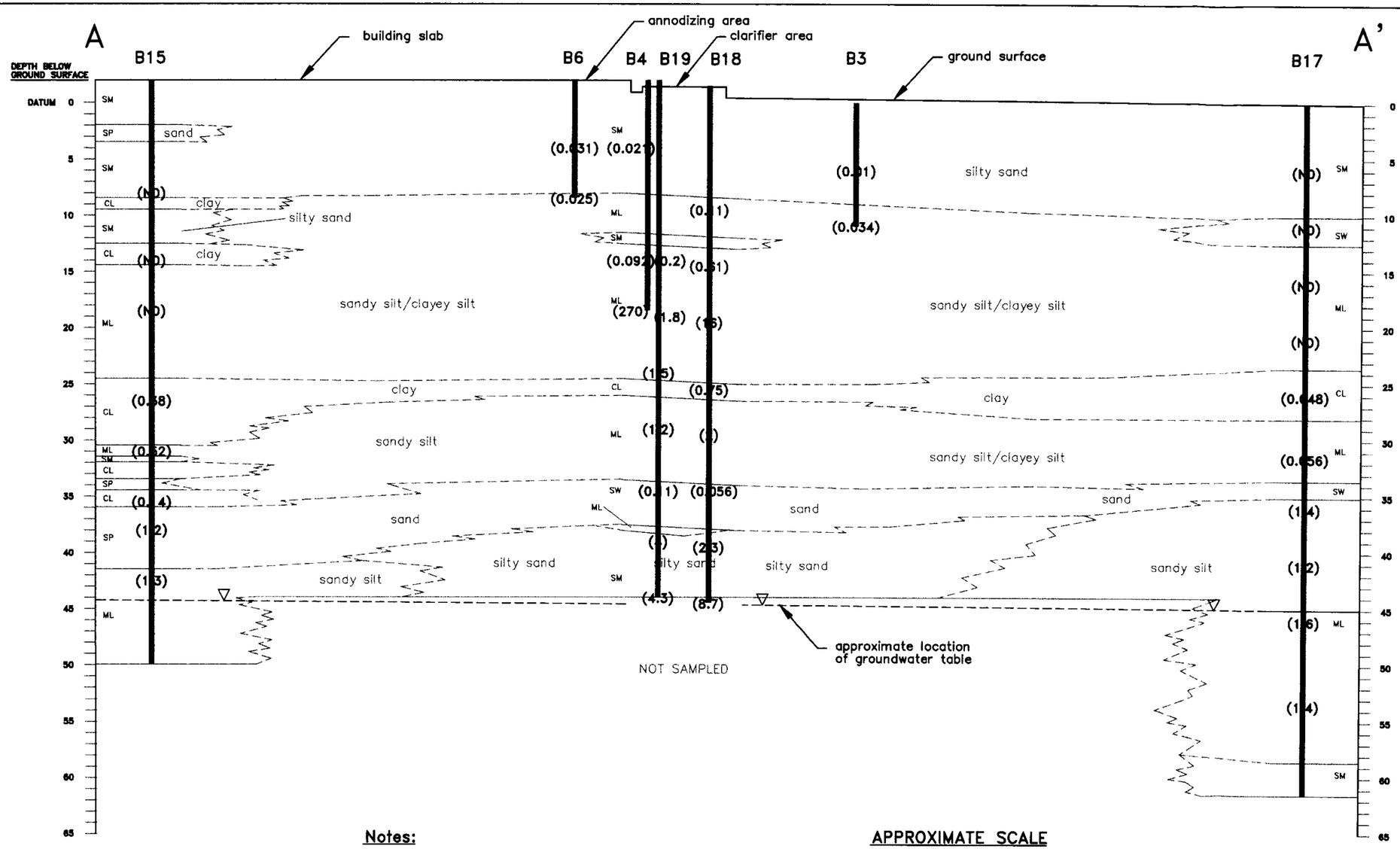
Plan Map Showing Deep Soil Cross Section Through Clarifier Area

Jervis B. Webb Co.
South Gate, CA
April 1999
EKI 961025.03

Figure 2



LEGEND

(8.7)	Concentration of TCE Detected in Sample of Soil (depth of sample indicated)
———	Lithologic Contact
- - - - -	Inferred Lithologic Contact
- - - ▽ - - -	Approximate Location of Static Groundwater Table
silty sand	General Soil Type
ML	USCS Soil Classification

Notes:

1. All locations are approximate.
2. All concentrations shown in units of milligrams per kilogram.
3. See Table 1 for analytical results for soil samples.

APPROXIMATE SCALE

1 inch = 10 feet

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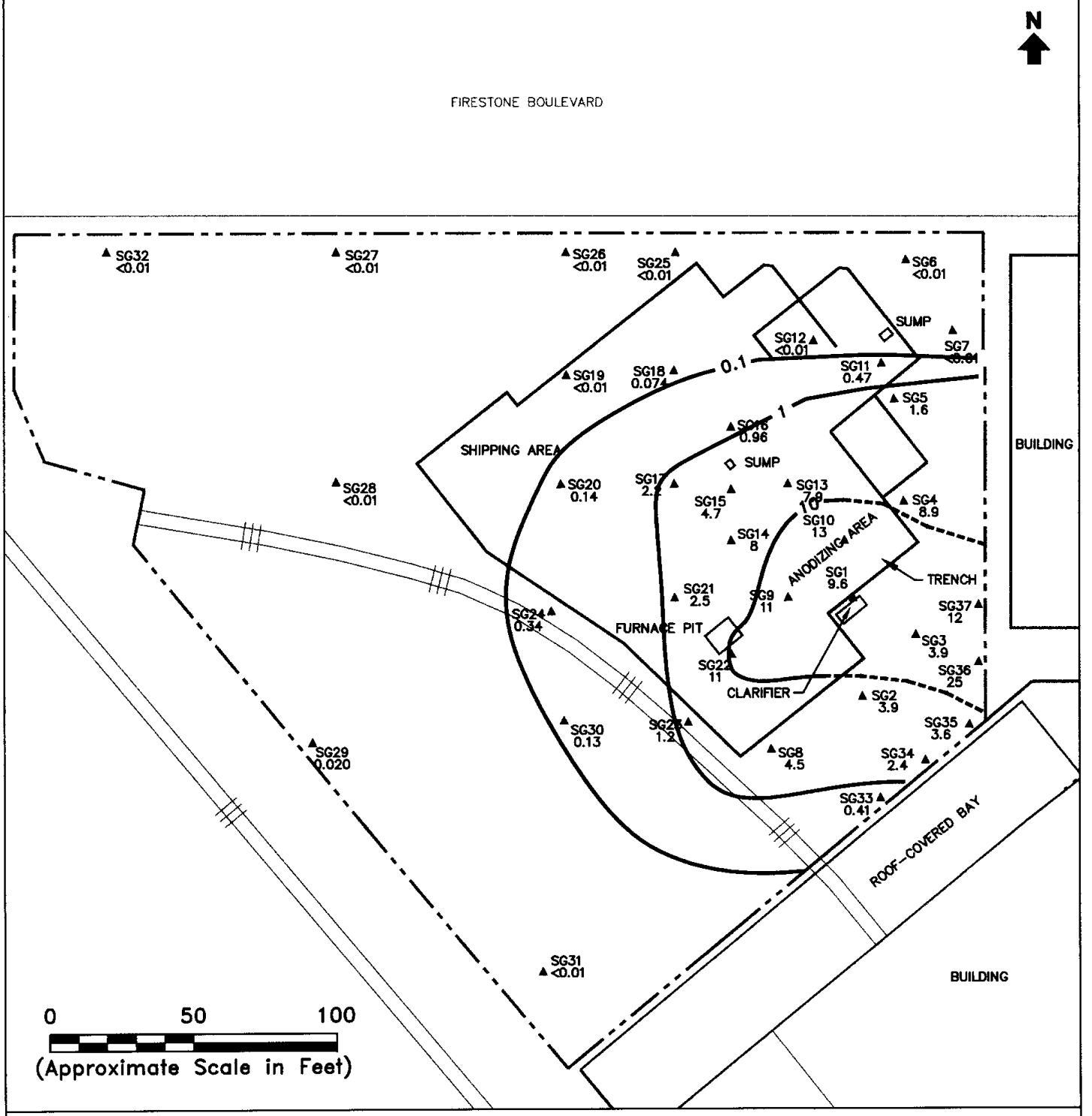
Cross Section A – A' Showing Concentration of TCE in Vadose Zone Soil

Jervis B. Webb Co.
South Gate, CA
April 1999
EKI 961025.03

Figure 3

001334



LEGEND

- ▲ SOIL GAS SAMPLING LOCATION
- PROPERTY LINE/BOUNDARY
- BUILDING
- RAILROAD SPUR

Notes:

1. All locations are approximate.
2. Soil gas concentration contours in units of micrograms per liter by volume in air.

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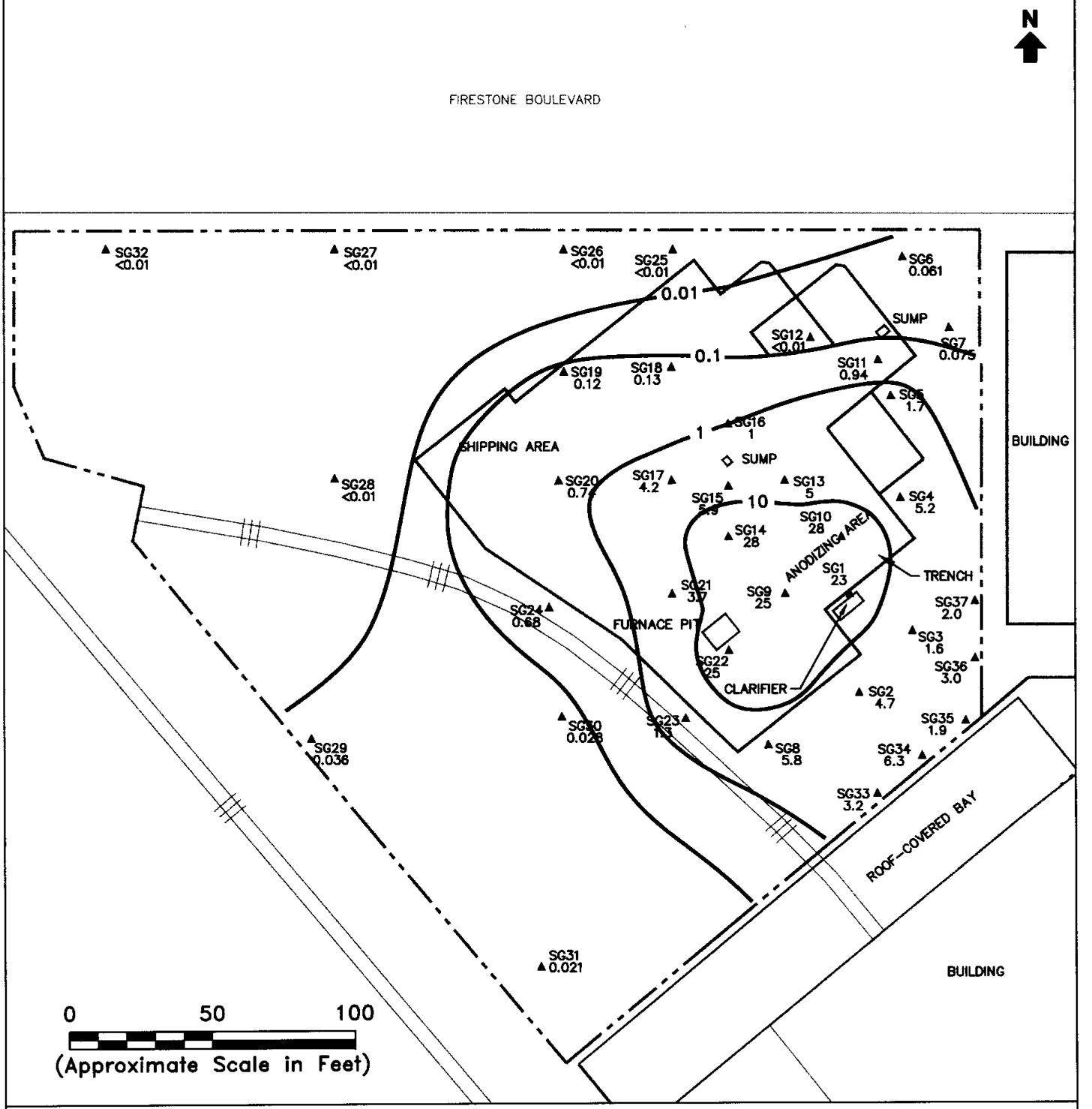
Concentrations of TCE Detected in Shallow Soil Gas

Jervis B. Webb Company
South Gate, CA
April 1999
EKI 961025.03
Figure 4



LEGEND

- ▲ SOIL GAS SAMPLING LOCATION
- PROPERTY LINE/BOUNDARY
- BUILDING
- RAILROAD SPUR

Notes:

1. All locations are approximate.
2. Soil gas concentration contours in units of micrograms per liter in air.

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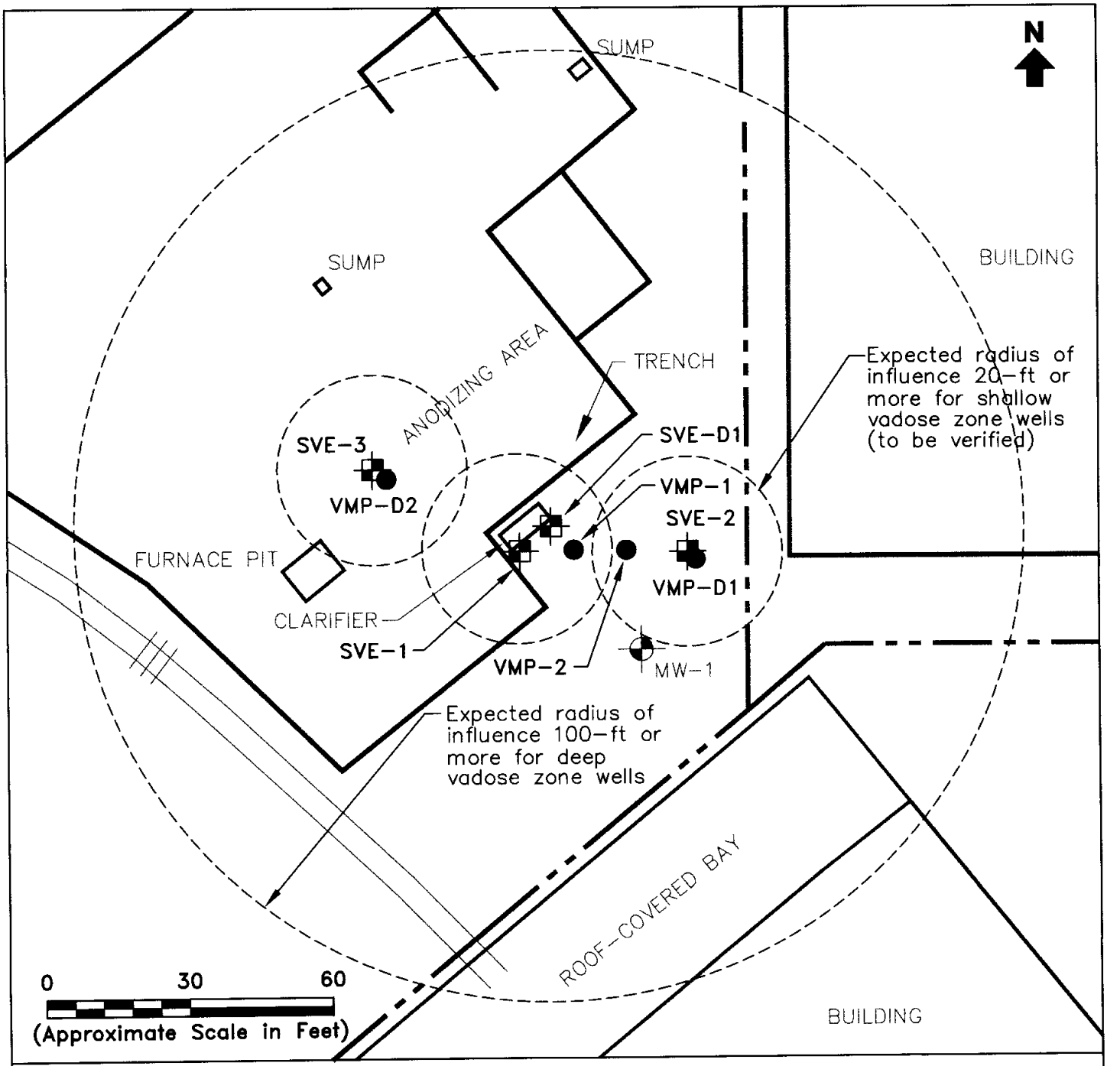
Concentrations of PCE Detected in Shallow Soil Gas

Jervis B. Webb Company
South Gate, CA
April 1999
EKI 961025.03

Figure 5



LEGEND

- PROPOSED SOIL VAPOR EXTRACTION WELL
- PROPOSED VACUUM MONITORING POINT
- LOCATION OF GROUNDWATER MONITORING WELL
- PROPERTY LINE/BOUNDARY
- BUILDING
- RAILROAD SPUR

Notes:

1. Shallow SVE wells and expected radii of influence are shown in green. Deep SVE wells and expected radius of influence are shown in blue.
2. All locations are approximate.

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Proposed SVE Well Locations

Jervis B. Webb Company
South Gate, CA
April 1999
EKI 961025.03

Figure 6